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P.O. Box 994
Midland, MI 48686-0994

EXAMINER

HU, HENRY S

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/779,962

Applicant(s)

ALTES ET AL.

Examiner

Henry S. Hu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on IDS of May 21, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) 1 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2 pages.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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1. It is noted that this application **10/779,962** is a **DIV of 09/905,664, now US Patent No. 6,737,473**. This Office Action is in response to IDS filed on May 21, 2004. In a close examination, Claims 1-21 are related to the originally non-elected Group II (Claims 22-44); while Applicants have already corrected the improper language in specification as mentioned by the Examiner on the rejection of parent case. **Claims 1-21 are now pending** with a total of two independent claims (Claim 1 and Claim 15). An action follows.

DETAILED ACTION

Claim Objections

2. Claims 1 and 15 are objected to because of the following informalities:

On Claim 1 at line 5 and Claim 15 at line 5, both recitations of “0.5-1,000,000 KPa-s” should be changed to “0.5 to 1,000,000 KPa-s”. Otherwise the claimed viscosity may be read as either from **0.5 to 1,000,000 KPa-s** or from **500,000 to 1,000,000 KPa-s**. See allowed parent case for the same correction.

Appropriate correction is required.

Double Patenting

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3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thornton*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. **Claims 16-21** are rejected under the judicially created doctrine of double patenting over **Claims 1-19 of US Patent No. 6,737,473** to Altes et al. (the parent case **09/905,664** of this Application).

This is a double patenting rejection since the conflicting claims have been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced US patent since both are claiming exactly the same subject matter.

It is noted that this application **10/779,962** is a **DIV of 09/905,664, now US Patent No. 6,737,473**. The products made from process Claims 16-21 would carry the same composition as the composition Claims 1-19 of the allowed parent case. The Applicants need to cancel Claims 16-21 in this regard.

Claim Rejections - 35 USC § 103

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. *The limitation of parent Claim 1 of the present invention relates to a process of preparing a water-continuous emulsion composition comprising the steps of:*

(I) forming a premix comprising: (A) 100 parts of an elastomeric polymer having a viscosity of 0.5-1,000,000 KPa-s and a glass transition temperature up to 50 °C, (B) 3-30 parts surfactant, wherein the premix is essentially free of organic solvents,

(II) adding (C) 5-45 parts water to the premix with mixing; thereby forming a water-continuous emulsion having (a) a solids content of greater than 75%, (b) an average particle size less than 5 μ m, and (c) having sufficient stability to produce a stable lower solids emulsion upon dilution with water.

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*Other parent **Claim 15** relates to parent claim 1 but the water is added to the premix in incremental portions, whereby each portion is as specified. See other limitations of dependent **Claims 2-14 and 16-21**.*

7. Claims 1-4, 9-16 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroshi et al. (JP 10-36575) in view of Gee et al. (EP 463,431 A2) or Nothnagel (US 5,356,988).

Regarding the limitation of each of two parent **Claims 1 and 15**, Hiroshi et al. have disclosed the preparation of cross-linkable type "water-dispersible" composition comprises a **saturated hydrocarbon-based polymer containing one or more silicon-containing groups**, having hydroxyl groups or hydrolysable groups (abstract, line 1-20; see silane groups in paragraphs 5-12). Hiroshi further discloses that saturated hydrocarbon type polymer can be isobutylene type, a hydrogenated polyisoprene or a hydrogenated polybutadiene type polymer (see paragraphs 21-22), which would carry a **glass transition temperature with the claimed range** (see the discussion on page 10 bottom of non-final action in the parent case).

8. In a close examination, the Hiroshi reference is **silent about using a pre-mix method (for Claims 1 and 15) and by adding water in incremental amount (for Claim 15)**. Each of Gee and Nothnagel has taught using such a pre-mix method to prepare emulsion from high viscosity solution. For instance, Gee has **first prepared a thick phase emulsion** with the aid of surfactant and small amount water, **and then dilutes it with additional water** in larger amount

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(the addition of water for such a pre-mix process may be in incremental amount, see working Examples 2-5 on pages 7-8), so as to obtain the desired content (abstract, line 6). **Nothnagel** has prepared aqueous dispersions of amine and ammonia salts of acrylic polymers through a **pre-mix method** (abstract, line 1-5; column 15, line 36-42; column 4, line 64-68; column 5, line 20-25). Some organic solvent(s) may be used with water for mixing; and then organic solvent(s) can be removed almost completely by azeotropic distillation (column 10, line 25-36). The advantage to use pre-mix method is that high viscosity emulsions can be effectively and conveniently obtained (see Gee at page 2, line 20-26; see Nothnagel at column 1, line 7-23). It is noted that both Hiroshi and Gee are dealing with polymer and/or compound containing silane groups (see Gee at page 3, line 1-11; particularly see R¹ can be hydroxyl or alkoxy group), one having ordinary skill in the art would therefore have found it obvious to **modify Hiroshi's preparation of water-dispersible and cross-linkable composition by using a pre-mix method** as taught by Gee or Nothnagel. By doing so, an advantage is to obtain high viscosity emulsions in a more effective and convenient way.

9. Regarding **Claims 2-4, 9-14, 16 and 20-21**, the addition of sequential water and the way of mixing are routine in the art and can be thereby rejected from above discussion.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroshi et al. (JP 10-36575) in view of Gee et al. (EP 463,431 A2) as applied to Claims 1-4, 9-16 and 20-21, and further in view of Chung et al. (US 5,543,484).

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Regarding **Claim 5** which are dependent from Claim 1, the 103(a) rejections set forth above for Claims 1-4, 9-16 and 20-21 are incorporated here by reference. The reference is **silent about using a specific silylated copolymer of isomonoolefin and para-methylstyrene.**

Chung et al. teach that various copolymers made of isomonoolefin and para-methylstyrene as well as its post-functionalized copolymers can be prepared, the advantage is such copolymers having wide properties ranging from amorphous, glassy to highly crystalline, tough and high density (column 1, line 6-14).

In light of the fact that all the involved references including Hiroshi, Gee and Chung are dealing with polymer and/or compound containing silane groups, one having ordinary skill in the art would have therefore found it obvious to modify Hiroshi/Gee or Hiroshi/Nothnagel's polymeric composition by including a silylated organic polymer based on isomonoolefin and para-methylstyrene as taught by Chung. The advantage is such a specific silylated organic polymer will improve the performance properties on the obtained composition with a wide range from amorphous, glassy to highly crystalline, tough and high density.

11. Claims 6-8 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroshi et al. (JP 10-36575) in view of Gee et al. (EP 463,431 A2) or Nothnagel (US 5,356,988) each individually as applied to Claims 1-4, 9-16 and 20-21, and further in view of Joffre et al. (US 5,840,800).

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Regarding **Claims 6-8 and its product Claims 17-19**, the 103(a) rejections set forth above for Claims 1-4, 9-16 and 20-21 are incorporated here by reference. The reference is **silent about including a plasticizer (Claim 6) and a low molecular weight acid (Claims 7-8) in the composition.** Joffre et al. teach that cross-linkable emulsions of pre-formed silicon modified organic polymers can be prepared in a form of dispersion and with the aid of a **plasticizer such as dioctylphthalate** (see example 1 on column 37, line 29-58, particularly line 33 as well as on other examples). Joffre also discloses in examples 3-4 that some amount of low molecular weight organic acid such as **acetic acid** may be included in the composition (**column 38, lines 26 and 51-54**). By adding such two components, the advantage is that an aqueous dispersion of cross-linkable and viscous emulsions of pre-formed silicon modified organic polymers can be effectively and conveniently obtained (column 1, line 7-9; column 3, line 23-27).

Therefore, one having ordinary skill in the art would have found it obvious to modify Hiroshi/Gee or Hiroshi/Nothnagel's polymeric composition by including **both a plasticizer and a low molecular weight organic acid such as acetic acid** in the premix composition as taught by Joffre. The advantage is the addition of such two components will effectively and conveniently make an aqueous dispersion of cross-linkable and viscous emulsions and may also improve the performance properties on the final cured product.

Conclusion

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12. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to a **pre-mix process** of making a water-continuous emulsion composition comprising an elastomeric polymer, a surfactant and water:

US Patent No. 5,421,866 to Stark-Kasley et al. disclose the preparation of aqueous emulsion compositions comprising an alkoxysilane, a silane coupling agent and a polyisobutylene (abstract). It is suitable for treating cellulose or masonry surface to render them water repellent. A solid content **only up to 30 %** is obtained (column 4, line 21-23). Polyisobutylene preferably has terminal groups which can hydrogen bond to the hydroxyl groups generally found on cellulosic or masonry substrates (column 3, line 20-40). **No pre-mix method is applied.** Therefore, Stark-Kasley fails to teach limitation of present invention.

US Patent No. 6,103,786 to Hoch et al. disclose the preparation of stable, finely divided polymer dispersions with polymer particle sizes of 0.1 to 10 μm by dissolving a water-in-oil emulsion with water and surfactant to become an oil-in water emulsion. The water-in-oil emulsion is prepared by **dissolved a claimed polymer in an organic solvent and has the claimed viscosity.** Hoch does not teach "essentially free of organic solvents" in the composition. **No pre-mix method is applied.** Therefore, Hoch fails to teach limitations of present invention.

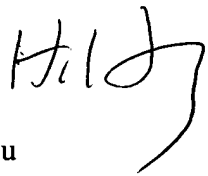
US Patent No. 5,763,505 to Derioan et al. disclose the preparation of aqueous emulsions of **silicon oils and/or gums and/or resins** (title). Non-ionic surfactant and water are included

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(column 5, line 16-42). **No pre-mix method is applied.** Therefore, Derioan fails to teach limitations of present invention.


13. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu whose telephone number is (571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Henry S. Hu

Patent Examiner, art unit 1713, USPTO

March 20, 2006


DAVID W. WU
ADVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700